



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**14.05.2003 Bulletin 2003/20**

(51) Int Cl.7: **A23C 20/00, A23C 19/068,  
A23C 19/076**

(43) Date of publication A2:  
**02.05.2002 Bulletin 2002/18**

(21) Application number: **01308934.7**

(22) Date of filing: **19.10.2001**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE TR**  
Designated Extension States:  
**AL LT LV MK RO SI**

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(30) Priority: **25.10.2000 US 696053**

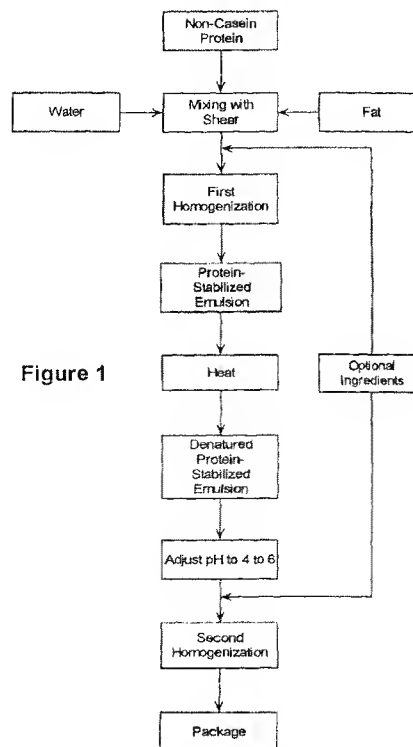
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(54) **Process for making caseinless cream cheese-like products**

(57) The invention is directed to a cream cheese-like product where non-casein protein replaces casein protein and a method for making such product. More specifically, the invention is directed to a process which is effective for making a cream cheese-like product substantially free of casein, wherein the process comprises: mixing (1) proteins other than milk caseins, e.g. whey protein or soy protein, (2) fat such as butter fat or other food grade fat, and (3) water to form a mixture; subjecting the mixture to a first homogenization to form a protein matrix stabilized emulsion system; heating the protein matrix stabilized emulsion system to a temperature effective to denature the proteins to form a denatured protein matrix stabilized emulsion; adjusting the pH of the denatured protein matrix stabilized emulsion to about 4 to about 6; subjecting the pH-adjusted emulsion to a second homogenization to form the cream cheese-like product; and packaging the cream cheese-like product. Optional ingredients such as stabilizers (e.g., gums), other emulsifiers, salts, coloring, and flavorings can be added to the mixture or to the emulsion (i.e., prior to the first or the second homogenization step).



**Figure 1**



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 01 30 8934

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 603 981 A (VER COOP MELKIND) 29 June 1994 (1994-06-29)	13, 14	A23C20/00 A23C19/068 A23C19/076
A	* claim 1; example 1 *	1	
X	--- DATABASE FSTA 'Online! INTERNATIONAL FOOD INFORMATION SERVICE (IFIS), FRANKFURT/MAIN, DE; ANDRES C: "High quality tofu made with dairy equipment." Database accession no. 87-1-11-g0014 XP002233835 * abstract * & FOOD PROCESSING, USA 1986, vol. 47, no. 4, pages 108-109, ---	14	
X	GB 2 032 241 A (KRAFT INC) 8 May 1980 (1980-05-08)	13, 14	
A	* example 5 *	1-3	
X	--- US 4 391 835 A (KATAYAMA TSUTOMU ET AL) 5 July 1983 (1983-07-05) * column 3; claims 1-3; table I *	14	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
X	--- CIRCLE S J: "Soy proteins in dairy-type foods, beverages, confections, dietary, and other foods." JOURNAL OF THE AMERICAN OIL CHEMISTS' SOCIETY 1974 ANDERSON CLAYTON FOODS, RICHARDSON, TEXAS, USA, vol. 51, no. 1, pages 198A-199A, XP002233834 * page 199A, column 1, line 9 - line 10 *	14	A23C
X	--- US 3 620 757 A (ELLINGER RUDOLPH H ET AL) 16 November 1971 (1971-11-16)	14	
A	* column 9 *	1	
	--- -/--		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10 March 2003	Examiner Desmedt, G
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 C3 R2 (P04C01)



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 01 30 8934

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 008, no. 085 (C-219), 18 April 1984 (1984-04-18) & JP 59 006840 A (TAIYOU YUSHI KK), 13 January 1984 (1984-01-13) * abstract *	14	
A	----- US 5 882 704 A (SAKAUE YOSHIKO ET AL) 16 March 1999 (1999-03-16) * claim 1; example 1 *	1	
A	----- FR 2 406 955 A (NEORE NORRLANOS PRODUCENTSFORE) 25 May 1979 (1979-05-25) * claim 1 *	1-3,6	
A	----- KALAB M ET AL: "MILK GEL STRUCTURE. XV. ELECTRON MICROSCOPY OF WHEY PROTEIN-BASED CREAM CHEESE SPREAD1.2" MILCHWISSENSCHAFT, VV GMBH VOLKSWIRTSCHAFTLICHER VERLAG. MUNCHEN, DE, vol. 40, no. 4, 1 April 1985 (1985-04-01), pages 193-196, XP002004734 ISSN: 0026-3788 * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10 March 2003	Examiner Oesmedt, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P0401)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 30 8934

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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10-03-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0603981	A	29-06-1994	NL 9202245 A	18-07-1994
			DE 69305312 D1	14-11-1996
			DE 69305312 T2	28-05-1997
			DK 603981 T3	17-03-1997
			EP 0603981 A1	29-06-1994
			FI 935761 A	24-06-1994
GB 2032241	A	08-05-1980	CA 1116010 A1	12-01-1982
			US 4312891 A	26-01-1982
US 4391835	A	05-07-1983	JP 1406066 C	27-10-1987
			JP 55104871 A	11-08-1980
			JP 62010144 B	04-03-1987
US 3620757	A	16-11-1971	BE 736124 A	15-01-1970
			CH 541932 A	30-09-1973
			DE 1935257 A1	03-09-1970
			FR 2012983 A5	27-03-1970
			GB 1282501 A	19-07-1972
			IL 32538 A	28-11-1973
			NL 6910849 A	19-01-1970
JP 59006840	A	13-01-1984	NONE	
US 5882704	A	16-03-1999	JP 2973844 B2	08-11-1999
			JP 8009882 A	16-01-1996
FR 2406955	A	25-05-1979	SE 427080 B	07-03-1983
			AU 519572 B2	10-12-1981
			AU 4117778 A	08-05-1980
			BE 871324 A1	15-02-1979
			CA 1116929 A1	26-01-1982
			DE 2845486 A1	03-05-1979
			DK 461778 A	29-04-1979
			FR 2406955 A1	25-05-1979
			GB 2006601 A , B	10-05-1979
			IT 1099830 B	28-09-1985
			LU 80425 A1	19-03-1979
			NL 7810599 A	02-05-1979
			NZ 188716 A	23-01-1981
			SE 7712167 A	29-04-1979
			US 4333958 A	08-06-1982
			US 4253386 A	03-03-1981

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

1/7/1

DIALOG(R)File 351: Derwent WPI

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WPI Acc no: 1985-019386/198504

XRAM Acc no: C1985-008086

**Spreadable acidified cream prod. - made by fermenting homogenised cream, ripening, then mechanically processing to agglomerate fat**

Patent Assignee: FA DR OETKER A (OETK-N)

Inventor: HOLT J; VOSS H D

Patent Family ( 2 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 3324821	A	19850117	DE 3324821	A	19830709	198504	B
DE 3324821	C	19860612	DE 3324821	A	19830709	198624	E
			DE 3324821	A	19830709		

Priority Applications (no., kind, date): DE 3324821 A 19830709

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
DE 3324821	A	DE	8	1	
DE 3324821	C	DE		1	

**Alerting Abstract DE A**

Prepn. comprises mechanical processing of cream so as to cause agglomeration of fat, providing a creamy, spreadable consistency.

The cream has been acidified by adding a lactic acid bacterial culture or an organic acid and its milk dry matter content increased by 1-2%. It is allowed to ripen and crystallise before processing. A new compsn. consists of 80-90% cream (at least 30% fat); 0.7-1% skim milk powder; 0.6-1% starch; 0.2-0.5% gelatin and/or hydrocolloid; 2-3.5% mesophilic mixed lactic acid culture and 6-10% particular seasonings.

USE/ADVANTAGE - Useful as a spread for bread. It remains spreadable over a wide temp. range and can be stored (cool) for at least 5 weeks.

**Equivalent Alerting Abstract DE C**

Prepn. comprises mechanical processing of cream so as to cause agglomeration of fat, providing a creamy, spreadable consistency.

The cream has been acidified by adding a lactic acid bacterial culture or an organic acid and its milk dry matter content increased by 1-2%. It is allowed to ripen and crystallise before processing. A new compsn. consists of 80-90% cream (at least 30% fat); 0.7-1% skim milk powder; 0.6-1% starch; 0.2-0.5% gelatin and/or hydrocolloid; 2-3.5% mesophilic mixed lactic acid culture and 6-10% particular seasonings.

USE/ADVANTAGE - Useful as a spread for bread. It remains spreadable over a wide temp. range and can be stored (cool) for at least 5 weeks.

**Title Terms /Index Terms/Additional Words:** SPREAD; ACIDIC; CREAM; PRODUCT; MADE;

FERMENTATION; HOMOGENISE; RIPENING; MECHANICAL; PROCESS; AGGLOMERATE;  
FAT

## Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A23C-009/13			Main		"Version 7"
A23L-001/34			Secondary		"Version 7"

File Segment: CPI

DWPI Class: D13

Manual Codes (CPI/A-N): D03-B; D03-C

## Original Publication Data by Authority

### Germany

**Publication No.** DE 3324821 A (Update 198504 B)

Publication Date: 19850117

#### **Brotaufstrich auf Sauerrahmbasis**

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Voss, Hans-Dieter, 3079 Uchte, DE

Language: DE (8 pages, 1 drawings)

Application: DE 3324821 A 19830709 (Local application)

Original IPC: A23C-9/13 A23L-1/34

Current IPC: A23C-9/13 A23L-1/34

Claim:

- 1. Verfahren zur Herstellung von streichfaehigen Sauermilcherzcugnissen, dadurch gekennzeichnet, dass eine durch Milchsaeurebakterienkulturen oder organische Saeuren gesaeuerte Sahne, auch unter Erhoehung der Milchtrockenmasse um 1-2R, nach einer Reifungs- und Kristallisationszeit durch mechanische Bearbeitung so behandelt wird, dass es zu einer Fetttagglomeration kommt, und eine cremige, streichfaehige Konsistenz entsteht.

**Publication No.** DE 3324821 C (Update 198624 E)

Publication Date: 19860612

#### **Brotaufstrich auf Sauerrahmbasis**

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Language: DE (1 drawings)

Application: DE 3324821 A 19830709

DE 3324821 A 19830709 (Local application)

Original IPC: A23C-9/13  
Current IPC: A23C-9/13(A)

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